

Remarks/Arguments:

Claims 1-26 are pending in the subject application. In an Office Action dated July 9, 2004, the Examiner has rejected claims 1-11 and 14-26 under 35 U.S.C. 103(a), and has objected to claims 12-13 as depending from a rejected base (and intervening) claim. Specifically, claims 1-6, 10-11, 14, 17-21 and 24-26 stand rejected under the combination of U.S. Patent No. 6,009,698 to Cullen (hereinafter, Cullen) with U.S. Patent No. 6,009,328 to Muszynski (hereinafter, Muszynski); claims 7-9 and 15-16 stand rejected over the combination of Cullen and U.S. Patent No. 5,267,261 to Blakeney, II et al. (hereinafter, Blakeney); and claims 22-23 stand rejected over the combination of Cullen, Muszynski, and U.S. Patent No. 6,223,031 B1 to Näslund (hereinafter, Näslund).

The Office Action recites that claims 12-13 would be allowable if rewritten in independent form. This Amendment includes amended claims 12-13, each of which is now rewritten to include all of the limitations of claims 1 and 11 from which they previously depended. Claims 12-13 should now be allowable.

Claim 26 is amended to recite that the measurement report is prepared on the basis of states of the sets of trigger conditions and logical function, not on the basis of the conditions and functions transmitted from the base station.

All claim rejections for obviousness are addressed en masse, as they all rely on the combination of Cullen with Muszynski. Claims 1, 22 and 24 are the independent claims under rejection, and each recite 1) first and second sets of trigger conditions; and 2) a logical function to combine those sets of trigger conditions. Claims 1 and 22 further recite that 3) a measurement report is sent in dependence upon the condition of the logical function, and claim 26 (which depends from claims 24-25) recites that the receiving means receives a measurement report that is prepared on the basis of states of the trigger conditions and logical function.

1. THE REFERENCES TEACH MEASUREMENTS, NOT SETS OF TRIGGER CONDITIONS.

At least for the reason that the logical function is a combination of the trigger conditions, claim 1 distinguishes between the measurement report and the sets of trigger conditions upon which sending of the measurement report depends. That is, the sets of trigger

conditions are not the measurements themselves. This is clear by the distinct clauses of claims 1 and 22, and by the separate listing of trigger conditions in claim 24 and measurement report in claim 26.

The application at page 4, line 33 to page 5, line 10, recites that a threshold value is an example of a trigger condition. It describes algorithms as the preferred embodiment of the trigger conditions, which at page 7, lines 22-24, 29-30, and page 8, lines 14-19 are explicitly explained as distinct from the measurements themselves. The Examiner asserts that Cullen teaches first and second sets of trigger conditions at col. 3, lines 12-13 concerning measurements of link performance (e.g., BER, C/I, received power level or bit rate). At col. 3, lines 14, 31, and 37, Cullen recites respectively that the units may collect data continuously, that they can make different measurements, and that the parameter to be measured can be based on the bearer signal type. The teachings of Cullen relate to the measurements themselves, not to trigger conditions.

The distinction can be shown with BER, which is used as an example in both the present application and in Cullen. The application recites at page 7, lines 7-8, that a BER can be used *as a measure*. Subsequently at page 7, lines 22-24, it recites that "Having performed the measurements for this base station signal, the MS checks whether a MEHO (Mobile Evaluated HandOver) report is to be transmitted according to the HO algorithm ..."; and at lines 29-30 "The HO algorithm is used to trigger the transmission of the MEHO measurement report." One of the Cullen examples for a measurement of link performance is BER (col. 3, line 13). Both the application and Cullen use BER as an example of a measured parameter, but the application distinguishes between the measured value of BER and a trigger condition. The Office Action refers to Cullen taking a measurement, and specifically to BER measurements, as anticipating/making obvious the claim clauses referring to trigger conditions. But Cullen is not seen to teach an algorithm or any other trigger condition, only the measurements. The measured BER of Cullen cannot be interpreted as both the measurement report and the trigger condition of the claims: to do so would compare the measured BER to itself and transmit the measured BER based on the comparison. Since this would result in the 'trigger condition' being met and the measured BER being consequently transmitted in every instance, such an interpretation reads the "trigger condition" language out of the claims.

The Office Action appears to include Muszynski in the rejection only for its teaching of uplink and downlink directions, as the Office Action cites in Muszynski SNR on the uplink (at col. 2, lines 44-45) and a pilot signal on the downlink (at col. 8, lines 65-66). Regardless, Muszynski also teaches a measurement (SNR) that in the reference relates to closed loop power control where individual MSs adjust transmit power in response to a power control command from the BS. The BS derives its power control command from SNR measured on the uplink. Muszynski teaches at col. 2, lines 44-49, that sending the power control command is not conditional on the value of the SNR, and that power adjustment at the MS is not conditional on comparing the power control command to anything else. In each case, the actions are automatic and non-discretionary. Muszynski's description of pilot signals at col 8, lines 65-66 is not seen to relate to trigger conditions. Thus, both Cullen and Muszynski are seen to teach the measurements themselves, not to trigger conditions upon which the sending of a measurement report depends, and this claim aspect is seen as non-obvious over the combination.

2. THE REFERENCES DO NOT TEACH OR SUGGEST A LOGICAL FUNCTION TO COMBINE THE SETS OF TRIGGER CONDITIONS.

The claimed logical function is for combining the trigger conditions, not the measurements. As detailed in the application (at page 4, line 35 to page 5, line 5; at page 8, lines 20-21; and at the table at page 10, line 15), the measurement report may be sent, for example, when both the uplink and downlink trigger conditions are met, when either of them is met, or based entirely on the uplink or downlink conditions. This function exists independently of the actual measurements. However, Cullen teaches at col. 4, lines 51-53, "a mathematical function of one or more of the *parameters* received from the *measurement* function B¹" (emphasis added), and the example given at lines 53-59 compares signal strengths to determine which base station has the strongest signal. This is not a logical function of sets of trigger conditions, but a straight comparison of measured signal strengths.

Muszynski is not seen to teach or suggest a logical function as recited in claims 1, 22 and 24, and the Office Action does not assert that it does, so the combination with Cullen is not seen to make this aspect of the claims obvious.

3. THE REFERENCES DO NOT TEACH OR SUGGEST SENDING A MEASUREMENT REPORT IN DEPENDENCE UPON THE CONDITION OF THE LOGICAL FUNCTION.

Claim 1 recites “at the mobile station, determining the state of each trigger condition, combining the states according to the logical function, and sending a measurement report to a base station in dependence upon the condition of the logical function”. Claim 22 recites similarly, and claim 26 somewhat different but similar enough for the below discussion. The *state* of the trigger condition is the result, whether or not the trigger condition is satisfied. This may be by comparing measurements, averages, estimates, and the like to a threshold, as recited in the application at page 7, lines 15-24. In the application at page 8, lines 16-25, the state of the trigger condition is termed a truth value, and truth values are combined by the logical function. Sending or not sending the measurement report depends on the result of that combination, which is the condition of the logical function as recited at page 8, lines 14-25.

Cullen fails to teach or suggest that a measurement report is sent in dependence on a condition of a logical function. Rather, Cullen is seen to teach at col. 3, lines 16-17, that the collected data is sent to the base station, apparently in all instances. There appear no teachings in Cullen where a measurement is not sent. It appears irrelevant whether or not the Cullen measurement unit can be configured to take different *measurements* as referred in the Office Action; the measurement (of whatever quality) appears to be sent in each and every instance. Cullen’s teaching at col. 4, lines 53-59, of determining which base station has the strongest signal does not appear related to whether or not the measurement is sent as in claims 1 and 22, but at best relates to where it is sent; there appears no instance where a measurement is not sent. In the claims, it is the mobile station that sends or does not send the measurement report, not (as it appears the Office Action construes Cullen) a particular base station that receives or does not receive a particular measurement. This aspect of claims 1, 22 and 26 provides that there exist some condition or state of the logical function by which no measurement report will be sent. Cullen is not seen to teach or suggest such a provision.

Further, Cullen is seen to teach away from the mobile station conditionally sending a measurement report. Claims 1 and 22 put the determination whether or not to send a

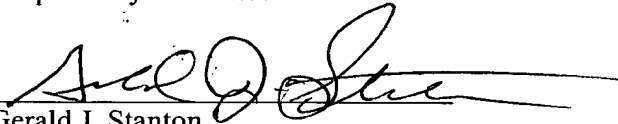
measurement report in the mobile station. In contrast, Cullen is seen to teach that the mobile station sends measurements when directed by the base station, and does not appear to include teachings that the mobile station does anything more than respond in a non-discretionary manner (see col. 3, lines 29-31, lines 41-48, and Figure 2 in the context of Figure 1). All control appears to reside at the BSC 6, and the BS's 2a-2c and the mobile unit 1 merely take and send measurements as directed. Cullen explicitly teaches away from devolving conditional choices below the BSC at col. 3, lines 41-45.

Muszynski is not seen to teach this aspect of claims 1, 22 or 26, and the Office Action does not assert that it does, so the combination of Cullen and Muszynski does not make this aspect of claims 1, 22 and 26 obvious.

Blakeney II and Näslund are not asserted as anticipating or making obvious any of the above claim aspects, so the claims are asserted as non-obvious over any combination of cited art. All other claims depend from either claims 1, 22, or 24, and should be patentable for at least that dependency.

The above distinctions over Cullen and Muszynski as to trigger conditions and logical functions for combining the trigger conditions are similar to distinctions previously shown over Näslund and Kobylinski in the Applicant Amendment dated March 25, 2004. The Applicant argued that those references also taught measurements but not trigger conditions, and the Applicant appreciates the Examiner's objectivity in withdrawing those previous rejections. The Applicant respectfully requests the Examiner to reconsider the teachings of Cullen and Muszynski, and to withdraw these rejections for similar reasons and pass claims 1-26 to issuance without further delay. The undersigned representative welcomes the opportunity to resolve any remaining issue via teleconference at the Examiner's discretion, as the Examiner deems appropriate.

Respectfully submitted:


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October 7, 2004
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